

# Balloon-Powered Car Inquiry Task

## Introduction to Physical Science: Forces, Motion, Energy, and Pressure

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Directions: You will be completing an inquire task. There are three parts to this task:

### Part 1:

### Forming Predictions

### Part 2: Organizing, Presenting and Analyzing Data

### Part 3: Using Evidence and Applying what you learned

The words listed below should be used when you are making predictions and explaining data and results:

Word(s)	Definition
1. Friction	The force which can both cause motion, but also counteract motion. The rubbing together of two surfaces. Can be highly dependent upon texture of surface and mass of objects.
2. Mass and weight	The amount of matter in an object. Objects with greater mass will not accelerate as quickly. Weight is dependent on gravity.
3. Gravity	Force of attraction. Gravitational pull of the earth keeps us "grounded".
4. Levers and fulcrum	A lever is a bar which pivots around a fixed point called the fulcrum. A lever has more/less power dependent upon where the fulcrum is located.
5. Wheel and Axle	A wheel is a cylinder which rotates around a fixed point called the axle.
6. Momentum	Official definition is the mass of an object multiplied by its speed. The greater the mass or speed, the greater the momentum (forward motion).
7. Speed (velocity)	Speed is the amount of distance covered per unit of time. We can measure speed by dividing distance covered by the time it took to cover that distance. $S = D(\text{meters})/T(\text{sec})$
8. Air Pressure	Air is a gas which expands to fill whatever space is available. Pressure is exerted by a gas that is contained. Pressure can cause motion.
9. Potential and Kinetic Energy	Potential energy is stored energy, and Kinetic energy is the energy released through motion.
10. Newton's 3 <sup>rd</sup> Law of Motion	For every action there is an equal and opposite reaction. Explains how a rocket takes off, or how you push a skateboard forward by pushing on the ground with your foot in the opposite direction.